

EXTRACT OF MALT (Trommer's)

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EXTRACT OF MALT.

(Trommer's.)

ITS PROPERTIES, REMEDIAL VALUE AND USES.



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IMPRINTED FOR

THE TROMMER EXTRACT OF MALT CO.

MANUFACTURERS OF

DIASTASIO NUTRIENTS,

FREMONT, OHIO, U. S. A.

Extract of Malt

(Trommer's)



Its Properties, Remedial Value and Uses.

The work in our laboratory during the past sixteen years has not been directed merely to the attainment of perfection, in the greatest degree possible, of the products of our manufacture, but investigations relating to the properties and adaptation of special forms of medicinal foods, and studies in the physiology and pathology of digestion and nutrition, properly pertaining to this field of inquiry, have not failed to receive that consideration which in this connection they naturally awaken and suggest to the mind of the physician and chemist.*

Digestion
and
nutrition.

The digestive forces of plant life which are developed and spring into action during the processes of germination, and by whose agency the constituents of the seed,—whether albuminoid, starchy or earthy matters,—by true digestive changes are transformed into diffusible bodies adapted to assimilation and nutrition, had not anywhere been rendered available in therapeutics, until, by the successful employment of methods devised by us, they were, in our preparations of barley malt, presented in stable form and well adapted for remedial use. Malt Extract had been indeed long esteemed as a bland and largely predigested nutrient, comprising the principal elements essential to the nutrition of the body; but the preservation in the extract of *active diastase* was our own conception and was achieved by us in the successful production of Trommer's Improved Extract of Malt.

Digestive
forces in
plant life.

* The originators and manufacturers of Trommer's Extract of Malt and Diastasic Food are practicing physicians and chemists. They consequently have kept in view the adaptation of these preparations to practical therapeutics. In the course of correspondence with physicians extending through a series of years they have received much useful information and many valuable suggestions which are thankfully acknowledged. They are ever ready to respond to all inquiries relating to these preparations and their appropriate uses.

The importance of diastasic digestion has been habitually underrated by most physiologists, from the fact that the notion has long prevailed that in animal life, at least, it affects only the amylaceous constituents of food, which until lately were also regarded as playing an inferior *role* as nutrients. And, another error, so long, and, even yet, so frequently accepted, that diastasic digestion is necessarily and essentially an alkaline digestion, and the observation that food is generally taken along with more or less acid, and that the gastric juice normally is of acid reaction, all contributed to lower the estimate of the value of the carbohydrate constituents of food, and of the function by which their digestion is accomplished.

Whatever merit attaches to our successful effort to supply a normal nutrient of bland quality, and of largely predigested constituents, and at the same time the property of acting as a digestive agent, would be far less had we not also made a systematic study of the adaptation of this substance to pathological conditions. In proceeding to show that the carbohydrates subserve other purposes than that of calorifacients, (as was believed and taught by Liebig), we had only to join in the chorus with the considerable number of experimenters who had also perceived the erroneous character of the prevailing views, and who could no longer resist the logic of facts proving that whatever article of food is a maintainer of heat must, in the transmutation of the forms of energy, be also generators of every other form of force,—and that the carbohydrates and hydrocarbons were as essential to the nutrition of the body as the albuminoids or any other food constituent.

If former views regarding the digestion of starchy food were correct, it is easily seen that practically no provision is made for its digestion,—all the more strange because, in wheat and barley, which are typical examples of a normal food, the amylaceous constituents exceed the albuminoids four or even six times. Little experimental investigation was required to ascertain so far as the diastasic digestion of the germinating seed is concerned, that this goes on in every instance in the presence of lactic acid, and that, moreover, in the “mashing” process, which consists of making a hot infusion of the crushed malt, lactic acid is constantly formed in increased quantity, rendering the “mash” characteristically acid, while the amount of starch changed under these conditions into saccharine bodies is simply enormous.

Charles Richet had already observed, in a fistulous stomach, that the presence of a certain amount of acid not only did not hinder, but actually

* Dr. J. Milner Fothergill, who has written much on disorders of digestion and nutrition, seems to have adopted without question these old and obviously incorrect views. He writes thus, respecting the action of diastase: “Now, diastase, whether of saliva or barley, it matters not, is inactive in the presence of an acid, and, taken into the acid stomach, as directed, is inert, simply thrown away, so far as it is a ferment, and reduced to the level of the food—no longer a digester, but itself to be digested. It is in the brief time before starchy matter reaches the acid stomach that the diastase is active and functionally operative.”

promoted the digestion of starchy food—confirming what had been previously stated by Frerichs. In 1882-3 a series of experiments were made in our laboratory, resulting in settling the fact beyond all dispute, that both salivary and malt diastase are most energetic in fluids containing a certain proportion of lactic acid. Ewald, Boas and Langley shortly afterwards published the results of their experiments showing that the gastric juice in human stomachs, during the first 15 to 35 minutes after the ingestion of food, owes its acidity to the presence of lactic acid,—and, in confirmation of our observations, that the degree of acidity during this period corresponds with the proportion of this acid which had been shown by us to most highly favor diastasic action.

Acidity and
diastasic
action.

Subsequently we published the results of a series of carefully conducted experimental observations clearly proving, that as in germinating grain and seeds, so in the human stomach, during the first stage of the digestive act, the diastasic digestion is by no means limited to starch conversion, but includes the formation of peptones, especially out of albuminoids derived from the cereals, and milk casein also, and other animal food. Later also these observations have been confirmed by Sticker and Wallace.

The
formation
of
Peptones.

The influence of these discoveries is of the utmost practical importance, and we feel no little gratification in having done something at least to promote them. In what manner they are affecting practical therapeutics may be gathered in the following pages. The recognition of the important truth that the articles of food classed as “nourishing” should not depend wholly on the quantity of albuminoids they contain; and that “dyspepsia” can not in the light of the facts already given, always call for the administration of pepsin, must add precision and efficiency to methods of treatment. We leave it to the recorded results obtained by writers like those whose experience is stated further on, to illustrate the utility of an agent possessing both nutrient and digestive powers.

Dyspepsia
and pepsia.

Prof. Fresenius.*

CHEMISCHES LABORATORIUM
des
GEH. HORRATH'S PROFESSOR
DR. R. FRESENIUS.

The bottles marked "Improved Trommer Extract of Malt, consisting of the soluble constituents of the best Canada Barley Malt, manufactured by Trommer Extract of Malt Co., Fremont, Ohio," contained a semi-fluid mass of the consistence of Honey of a brownish-yellow color, agreeable odor, and sweet, aromatic, honey-like taste. The Specific Gravity of this Extract at 20° C. is 1.29

The analysis yielded the following results: 100 parts by weight of this Extract contain:

Maltose (malt sugar).....	51.03
Dextrine'.....	10.94
Albuminates.....	3.11
Free acid, calculated as Lactic acid.....	0.43
Inorganic substances, phosphaates, etc.....	1.36
Water	22.47

I cannot omit calling attention to the extraordinary keeping quality of the Trommer Extract of Malt, which bore transportation from America to Wiesbaden, during the heat of summer, and was kept here for some months without the least injury to its properties.

In consideration of its great *Diastatic Power*, its stability, together with its agreeable taste and odor, I can pronounce the Malt Extract of the Trommer Extract of Malt Co., a *superior preparation*.

DR. R. FRESENIUS, Wiesbaden,

Dr. Redwood.

DR. REDWOOD'S ANALYTICAL DEPARTMENT, 17 Bloomsbury Square.

I have examined the Extract of Malt manufactured by the "Trommer Extract of Malt Company," and, judging from its physical characters and chemical reactions, I am of the opinion that it fairly represents what its name indicates, that is, that it is a preparation of Malt in which are contained the essential properties of that substance, with a slight addition of aromatic Bitter of the Hop. It has the character of a Soft Extract, in the sense in which that term is used pharmaceutically, and it has evidently been prepared with great care and judgment, as it retains the property of acting on amyloseous bodies, as Diastase does, while the Extract itself bears long keeping without change.

It also possesses the property of forming with Cod Liver Oil a permanent Mixture or Emulsion, in which the taste of the Oil is very effectually covered and its administration thus greatly facilitated.

T. REDWOOD, Ph. D., F. R. C. S., &c.,

Prof. Chemistry and Pharmacy to Pharmaceutical Society of Great Britain,

LONDON.

Prof. A. Rivers Wilson.

I have thoroughly examined this Extract of Malt, with the following results:

Malt Sugar (Maltose).....	46.65
Dextrine, Bitter Extractives and Fatty Substances.....	22.5
Albuminoids.....	2.5
Phosphates.....	1.713
Sulphates and Chlorides of Potash and Soda, &c.....	.51
Water	23.1
	99.973

This Extract of Malt is one of the best samples which have come under my notice. The various combinations of the Extract are all that they are represented to be, and in my opinion, cannot fail to prove valuable additions to the physician's armamentarium.

A. RIVERS WILSON, Ph. D.,

Analyst to the Grosvenor Co-operative Stores, Author of "Text Book of Chemical Analysis," "Chemical Notes for Pharmaceutical Students," &c.

LONDON.

Prof. Douglas.

UNIVERSITY OF MICHIGAN,
CHEMICAL LABORATORY, ANN ARBOR.

I enclose herewith my analysis of TROMMER'S EXTRACT OF MALT:

Malt Sugar.....	46.1
Dextrine, Hop-bitter, Extractive Matter.....	23.6
Albuminous Matter.....	2.469
Ash, { Phosphates	1.712
{ Alkalies377
Water	23.7

Total

99.958

SILAS H. DOUGLAS,
Professor of Analytical and Applied Chemistry.

* "The seventieth birthday of Prof. Fresenius was celebrated with great festivities by the students and citizens of Wiesbaden. Over 300 telegrams and letters of congratulations were received from all parts of the world."—*The Western Druggist*, for June, 1889.

PROF. MARVIN'S REPORT.

The following, from a review of The Fifth Annual Report of the State Board of Health of Kentucky, is taken from the *Journal of the American Medical Association*:

Comparative tests.
—Prof.
Marvin.

“The preparations of malt, both plain and in combination with other medicinal agents, have, in consequence of their digestive and constructive properties, deservedly won a high place among therapeutic agents. It is well known that the digestive agent in these preparations is diastase, the principle which converts starch into maltose and dextrine, and hence the merits of any given malt extract depend upon the activity of these diastatic properties. Prof. Marvin obtained from a well known wholesale house bottles of each of the following brands: Trommer's Extract of Malt, Maltine, Keasby & Mattison's John Hoff's (imported), John Hoff's (Tarrant's), Liebig's, and Shaker's Aromatic Elixir. *After applying the test most carefully under identical conditions, HE PLACES THE TROMMER EXTRACT AT THE HEAD OF THE LIST, having found it to possess most active Dastasic Properties.*”

PROF. IMMERMANN

On the Use of Trommer's Extract of Malt in the treatment of Anæmia, and Wasting Diseases.

From Ziemssen's Cyclopædia of the Practice of Medicine, Vol. 16, page 474.

“The Malt Extract prepared from Trommer's receipt is designed to fulfill much the same purpose as Cod Liver Oil, carbohydrates (malt sugar, dextrine,) taking the place of fatty matter. The simple, (much or little hopped) and the chalybeate (Ferrated) form of Malt Extract are coming more and more into favor as substitutes for the oil; they are more palatable and more easily digested, and should, therefore, be preferred in the dyspeptic forms of anæmia. During the last few years, Malt Extract has almost entirely taken the place of Cod Liver Oil in the treatment of phthisis, and other wasting diseases, at the Basle Hospital, and we have as yet found no reason for returning to the use of the latter remedy. The Extract may be given from one to three times a day in doses varying from a teaspoonful to a tablespoonful, in milk, broth, beer or wine.

Has taken the
place of Cod
Liver Oil.
—Prof.
Immermann.

From the article on PULMONARY DISEASES, in the work on the Practice of Medicine, By DR. FELIX VON NIEMEYER, Professor of Medicine and Director of the Medical Clinic, in the University of Tübingen.

“Of late years I have obtained very good effects from an Extract of Malt prepared by Trommer. This preparation of Trommer's is not a strong beer containing a large amount of alcohol and carbonic acid, like the Hoff's malt extract so greatly extolled, but is a genuine extract resembling other officinal extracts. . . . One hundred parts of it contain about seventy-six parts of maltose, or malt sugar, dextrine, bitter and resin of hops, seven parts of albuminous or protein substance, eighty-two hundredths of a part of phosphate of lime and magnesia, eighteen hundredths of alkaline salts, and sixteen of water. Patients almost always enjoy two or three tablespoonfuls of it daily, and it usually agrees well with them. It may be diluted in spring water, mineral water, warm milk or other liquid.”

Trommer's
Extract
of Malt.
—Prof.
Niemeyer.

In these pages are presented a brief sketch of the present state of knowledge relating to Digestion in both Plant and Animal life, and of the nature of the impairment of the digestive and nutritive functions in disease, as well as the most effective means of sustaining the body in sickness, and of restoring the constructive powers to the standard of health.

Origin of the Manufacture of Diastasic Extract of Malt.

Previous to the year 1874 Extract of Malt was but little employed medicinally in the United States, and was exclusively an imported article, and, for the most part prescribed by German practitioners, or by others who had pursued their medical studies on the continent of Europe. Indeed, up to the period mentioned, in consequence of the methods which had been hitherto employed in its manufacture, the value of malt extract depended wholly upon the fact that it was a highly concentrated nutrient whose constituents, being largely predigested, were excellently adapted to the rapid restoration of the body in cases of debility. For, while organic chemists had been acquainted with the fact that during the germination, or *malting*, of barley, a peculiar body, called *Diastase*, is developed, and that it is due to its digestive influence that the constituents of the grain (both albuminous and starchy) are changed into soluble forms, destined to nourish and build up the young plant, no method had been devised for preserving the diastase while the extract is undergoing the process of concentration.

We had however been much impressed with the importance of so preparing the extract that it should not contain merely all the soluble substances existing in the germinated barley, but also the *digestive diastase*, in order that it might not only form a highly concentrated nutrient, but possess also valuable digestive power. In 1873-4 we had completely mastered the obstacles involved in the manufacture of such an extract *in quantity*, and then offered the profession the IMPROVED TROMMER'S EXTRACT OF MALT.

That this improvement constituted an important therapeutic event, and the resulting product a valuable addition to the *Materia Medica*, may be inferred from the astonishing increase in the use of malt extract which rapidly ensued. From having been seldom prescribed in a few localities, and scarcely ever referred to in medical periodicals, it soon passed into general use, became a topic of discussion in the medical press, and found a place in current medical literature.

Digestion in Plants and Animals.

It should not be difficult to understand why malt extract, possessing the qualities already mentioned, came to be regarded as a valuable addition to an important class of remedial agents; it may nevertheless be well worth while briefly to describe its constituents and properties, as, when these are known, its proper uses are easily appreciated.

In order that one not familiar with the subject may be enabled to form clear ideas of *diastasic* malt extract, it is better to begin with a consideration of the grain from which it is derived, namely, Barley, the cereal which, from time immemorial, experience has proved to be best

adapted to the purpose of malting. Barley, like other cereal grains, contains the elements which are necessary to the nourishment of the man or animal using it as food. It furnishes materials out of which are formed muscle, fat, nerves, bone,—in fact all the tissues of the body. Barley, in a word, contains albuminous and starchy matters, phosphates and other earthy substances, entering into the composition of the tissues. The animal eats the grain and grows.

Constituents of Barley.

But in the form in which those substances exist in the grain, they are not *soluble*. They therefore require to be transformed by the action of the digestive juices before they are rendered capable of diffusion by various channels, throughout the system. The starchy matter is therefore transformed into the saccharine bodies called *maltose* and *dextrine* by the action chiefly of the salivary secretion; the albuminous matter is transformed into the soluble substance called *peptone*, by the action of the gastric juice. The pancreatic secretion, whose principal function is the digestion of fats, and the juices of the small intestines, also share in effecting these digestive changes.

Not animals alone, however, possess digestive powers. Let us for a moment consider how digestion takes place in seeds; for during the process of germination they undergo nearly, if not quite, the same changes that are produced by the digestive juices of the organs of digestion in animals.

Digestion in Plants.

This occurs during the “malting” or sprouting of every kind of seed or grain; but barley, being so extensively used for malting, furnishes the most familiar example. When the seed is placed under suitable conditions as regards warmth and moisture, it soon begins to germinate. After this has occurred, if the seed be examined, it is seen to have undergone a series of important transformations. A peculiar body called *diastase* has been developed which is endowed with remarkable digestive power, viz: the power of transforming starchy matter into maltose and dextrine, and of albuminous matter into peptones,—it also acts upon the oily constituent of the seed in a manner rendering the latter susceptible of diffusion. It is thus seen that diastase possesses a *triple digestive power*, corresponding with the saliva, the gastric and the pancreatic juices; for by this action of the diastase developed in the sprouting grain, the starchy, albuminous, fatty, and earthy matters, are all rendered soluble, and thus capable of being used up in forming from the seed, the leaves, stalk, and rootlets, of the young plant, which, when all the seed-substances are consumed, may thereafter draw its nourishment from the soil and the air. Nor is this asserting too much respecting plant digestion, as witness the phenomena occurring in many plants. For example, the sago palm, which attains many feet in height and many inches in diameter, its stem during the processes of growth being filled with starch and albuminoids, to the amount, may be, of hundreds of pounds. The natives of the region where it abounds, secure this, which is their substitute for bread, if the tree be cut down at the proper season. But if the palm be left to put forth its flowers and mature its fruit the substances which had filled its capacious trunk will be found to have disappeared, the latter forming now only a hollow shell. The store of starch and albuminoids has undergone a true digestion, a part has been expended in growth forces; a part, in new forms, now constitutes the fruit substances.

Diastase possesses a triple digestive power corresponding with that of the Saliva, the Gastric and Pancreatic Juices.

Nutritive and Digestive Properties.

In the preparation of Malt Extract the barley is first allowed to germinate sufficiently to develop a large amount of diastase, and to insure the transformation of a part of the starch and albuminoids into maltose, dextrine, and peptones. The process of germination having then been arrested, by rapid drying, the malted grain is subjected to processes during which diastatic action is renewed until the principal constituents of the malt are obtained, which are then reduced to a concentrated and stable form; neither the diastase nor any other constituent having suffered any injury by the methods used, the product possesses great diastatic activity.

In another place will be found Reports of Analyses of Trommer's Extract of Malt by Professors FRESENIUS, of Wiesbaden, Germany, REDWOOD and RIVERS WILSON, of London, Eng., and by many American chemists. One hundred parts of the extract contain from 3 to 8 parts of albuminous matter (mostly peptones) about 70 parts of maltose and dextrine, and about 2 parts of alkaline phosphates, by which it is apparent that the nutritive properties of the grain are fully represented.

While almost no other article contains so much nutritious matter as malt extract (which, in equal weight, exceeds the best beef steak at least three fold), the former possesses peculiar advantages which, although already suggested, deserves still further remark.

1. The albuminous or nitrogenous substance contained in the extract is mostly *predigested*, and ready therefore for immediate absorption, without taxing the digestive powers of the stomach.

2. The maltose and dextrine derived from the starchy constituents of the grain exist in the extract *in precisely the form into which starch is changed by the digestive action of the salivary secretion*, and are therefore fitted for immediate absorption by the digestive organs.

3. The earthy phosphates are also in soluble form and adapted to pass immediately into the circulation. Each of these substances is the product of the act of germination, and they are therefore often described as *vitalized*, and in a *nascent* state, adapting them in a peculiar manner to assimilation by the organs of nutrition.

4. The presence of diastase in large quantity endows the extract with positive digestive power, so that when it is taken with, or immediately after, other food, it supplies not only so much highly concentrated nourishment, but an agent which greatly aids digestion. According to Sticker and Hübner, diastase also assists in the formation and secretion of pepsin.

5. The dextrine contained in the extract is not merely a readily absorbable nutrient. According to Beaumetz it is also of the utmost value as a *peptogenous* agent,—in that it directly augments the secretion of pepsin by the peptic glands of the stomach. This property of dextrine has been experimentally confirmed, and is strongly maintained, by Schiff and Hoppe-Seyler.

6. In addition to the properties of malt extract already mentioned, it is important to refer to its wide adaptability to the treatment of disease. It is difficult to imagine a condition contra-indicating its employment. Owing to its blandness, it almost never disagrees with even the most delicate and enfeebled stomach. It is certain to be absorbed and thus

How Extract
of Malt is
obtained.

Constituents
of Extract
of Malt.

Ready for
absorption.

Its digestive
power.—
Hübner.

Increases the
secretion
of Pepsin.—
Beaumetz.

pass into the circulation as long as the stomach is in the slightest degree capable of taking up anything by absorption. It is equally adapted to both acute and chronic diseases, and to infantile life, and to the aged. It may be given pure, alone, (and experience has shown that this is as good a way as any to administer it) or it may be added to any kind of gruel, or farinaceous soup, or to milk, the latter then, when fed to infants, requiring no additional sweetening.

Adaptation to treatment of acute or chronic diseases.

In Acute Diseases.

Professor UFFELMANN, the eminent author, in his treatise on "*Diet in Acute Febrile Diseases*" has this to say concerning the use of malt extract:

"All the materials of which a fever diet should be composed, water, carbohydrates, albuminoids and salines, are comprised in the gruels, soups, etc., prepared from flour, bread, crackers, and barley, oatmeal, rice, arrowroot, etc. The albuminous matter of these articles is that best adapted to the febrile condition; for if meat albumen answers the same purpose, it is more especially valuable as convalescence approaches, and subsequently. But an important advantage attending the use of the articles first mentioned, when administered in suitable form, consists in the mild and bland properties of these preparations and their easy digestion. They contain all the elementary substances necessary to the nutrition of the body. By reason of these qualities they are habitually and appropriately given in all acute diseases, and more especially in all those characterized by much irritability of the digestive organs; as gastro-enteritis, dysentery, peritonitis, typhlitis, and typhoid fever. In some, at least, of these affections, light farinaceous soups should constitute the exclusive diet, until there is a decided improvement in the condition; because almost all other kinds of diet tend to increase peristalsis. Such nourishment is, moreover, rich in carbohydrates, which according to Voit and Hoppe-Seyler, tend to diminish the waste of the tissue and blood albumen, and, consequently to lessen the augmentation of temperature caused by the rapid retrograde changes going on in fevers in the nitrogenous matter of the body."

Diet in Fever.
—Uffelmann.

Useful in
gastro-
enteritis,
peritonitis
and typhoid
fever.

"Nourishment in more concentrated form than the farinaceous soups should be resorted to as soon as it can be borne. *Here malt extract is particularly to be recommended.* It contains about 8 per cent. of nitrogenous matter, 30 of maltose, 25 of dextrine, and more than 3 per cent. of earthy phosphates, offering, accordingly, a large quantity of readily digestible, and, for the most part, readily absorbable carbohydrates, a good proportion of albuminous matter, and no injurious substance whatever. When its use is indicated, *malt extract should be given as a matter of course, AND THIS ALL THE MORE when there is pressing occasion to nourish the patient as rapidly as possible.* It can be given in quantity up to one or two ounces daily. It may be added to any kind of farinaceous gruel or broth. Thus 12 ounces of the latter, with one and one-half ounces of malt extract, gives over $2\frac{1}{2}$ drachms of albumen, 2 ounces of carbohydrates and sufficient salines. By the addition of 33 per cent. of milk to such gruel a very nourishing fever diet is produced. Such a preparation is most readily taken, and the milk, when thus prepared, does not curdle in lumps, and is consequently more readily digested, and far less likely to irritate the gastro-intestinal mucous membrane."

Carbohy-
drates
diminish
waste of
tissue
and blood
albumen.—
Voit and
Hoppe-
Seyler.

Particularly
recommended
for rapid
nourishment.

In Chronic Diseases.

Dyspeptic forms of Anæmia.—
Immermann.

For mental and physical exhaustion accompanied by wakefulness.—
Palmer.

Chronic Dyspepsia.—
Chapman.

Given to over 300 patients.—
Prof. Larrabee.

Strikes at root of mal-assimilation.

Most valuable aid we possess.—
Prof. Marsden.

Successful treatment depends on proper diet.—
Prof. Wm. Pepper.

Writing of Trommer's extract, both the plain, and that containing iron, in *Ziemssen's Cyclopædia of Practice of Medicine*, Prof. IMMERMANN says: "They are more palatable and more easily digested than cod liver oil, and should therefore be preferred in the dyspeptic forms of anæmia." Professor PALMER, of Louisville, thus records his own experience with Trommer's Extract: "I have found it of marked benefit in duodenal dyspepsia, accompanied with constipation and emaciation, both of which it corrects; and also have frequently found it to be a panacea in cases of mental and physical exhaustion, accompanied by fretfulness or irascibility and wakefulness. . . . The more I give it the better I am pleased with its therapeutic action in certain of the most common chronic maladies." Professor CHAPMAN, of Toledo, in a paper contributed to a leading medical periodical says: "I have found much benefit in cases where the system has become depraved either from the lack of assimilative power, or the drain occasioned by chronic suppurative action, as in phthisis, etc. Frequently, in cases of chronic dyspepsia, where scarcely any food could be retained upon the stomach, I have been able to supply the demands of nutrition by the Extract of Malt alone, or combined, with a milk diet." Dr. MORTON gives this estimate of its value: "As regards the nutritive value of extract of malt, it may be inferior to cod liver oil, but my experience justifies me in thinking it makes up in being applicable in a far greater number of cases." A paper read before the Kentucky State Medical Society, by Prof. LARRABEE contains this statement: "I have given these preparations to over three hundred patients during the past year, including private and clinical practice, selecting such as I deemed suited to the wants of the several cases, and I have yet to see a single case in which benefit has not accrued from its use. . . . It is unnecessary that I should attempt to enumerate the diseases in which Extract of Malt has proved beneficial. *It appears to strike at the root of malassimilation.*" "In tabes, in the dyspeptic forms of anæmia, in fact, in wasting diseases generally, it has exceeded my most sanguine expectations." And this from Prof. MARDEN, of Quebec: "From results obtained through its use I have been led to look on this remedy as the most valuable aid we possess, in all cases where debility, impaired digestion and malnutrition obtain."

In an address before the Medical Faculty of Maryland, not long since, Professor PEPPER, of Philadelphia, declared "That in many conditions of impaired health and actual disease, successful treatment depends chiefly or exclusively on proper diet and regimen. . . . It is only as the patient is able to appropriate food that he gains from it; that which remains is a burden to his already heavily taxed system."

It is because diastasic malt extract, helps both directly and indirectly to improve the nutrition of the body that its effects are so salutary in chronic diseases. It supplies the patient with a considerable quantity of valuable nutritive matter, easily appropriated by the digestive organs; it helps to digest other nourishment; it is a true restorative.

The chief value of Extract of Malt is in those forms of dyspepsia dependent on an impairment in the quantity and quality of the digestive juices, and in those diseases in which imperfect digestion and nutrition are the main conditions to be remedied. Hence its usefulness in affections of the nervous system dependent upon debility and an impover-

ished state of the blood; in chronic diarrhoea produced by indigestion; in bronchitis and other catarrhal affections, attacking persons of weakly constitution; in those conditions which favor and precede chronic diseases of the lungs; and, in a word, nearly all forms of chronic wasting disease. The restorative properties of malt extract adapt it to most disordered conditions characterized by an impoverished state of the blood and by a tendency to emaciation.

An impairment in the power to digest starchy food and fats is a marked feature of the worst forms of wasting disease. The use of malt extract more certainly and more promptly corrects these faults of digestion than any other remedial agent. "It is an excellent nourishing agent for the weak, emaciated sick," writes Dr. LERSCH, "and it is in this class of cases that its manifold therapeutical application has been established." And Dr. GUSMAN, of Stuttgart, declares that "malt extract has rendered excellent service in diseases of the lungs, stomach, and bowels, in chronic catarrhs, and the catarrhs of asthmatics." Dr. WERBER, of Freiburg, commends it as "very efficacious in the diseases of children of scrofulous tendency, who suffer from impaired digestion." Prof. NIEMEYER, author of a most valuable work on the Practice of Medicine makes this statement respecting his employment of Trommer's Extract of Malt: "The class of diseases in which the chief, if indeed not the only, task of the physician, is to maintain and restore the strength and nutrition of the patient, is very large. . . . To meet these indications I have for several years employed malt extract *almost exclusively*, and with the very best effect."

For Infants and Children.

In no class of disorders of digestion and nutrition is malt extract more strikingly beneficial than in those occurring during infancy and childhood. After the period of infancy, the salivary glands, the organs which are chiefly concerned in the digestion of starchy food, increase in development and functional activity. Infants at the breast, however, especially when very young, usually possess little or no power to digest starchy food. Nature having provided them, in the mother's milk, with saccharine food necessary for their nourishment, in the form of milk sugar, has not provided them also with the power to digest starch. The lack of this ability becomes important, however, when unfortunately the child is partly, or, worse still, wholly deprived of nourishment from the breast; for it often happens that cow's milk and other kinds of food offered to the child do not agree with the weak digestive organs, and it soon shows indications of being imperfectly nourished. Cow's milk is deficient in milk sugar, and the addition of cane sugar is not a perfect substitute for milk sugar. The caseine of cow's milk also curdles in larger and firmer lumps than human milk, and is consequently slower and more difficult of digestion.

Maltose, an important constituent of malt extract, is a perfect substitute for milk sugar. It has precisely the same chemical composition. The addition of malt extract to cow's milk not only supplies the requisite amount of saccharine matter, but it has the further effect of causing the milk to curdle in light and porous, flocculent curds like the caseine of human milk. Thousands of children who are daily fed principally on cow's milk, diluted or not, according to the age and condition of the child, with Trommer's Extract of Malt, either used as sweeten-

Excellent
nourishing
agent.—Dr.
Lersch.

In diseases
of lungs,
stomach,
bowels.—Dr.
Gusman.

Efficacious in
diseases of
children.—
Dr. Werber.

Have
employed
it almost
exclusively.
—Prof.
Niemeyer.

Infants have
little or no
power to
digest starch.

Maltose and
Milk Sugar.

ing or given pure after the milk, by their being healthy and well nourished, prove the value of the extract as a nutrient and digestive.

When the teeth appear, and the time of weaning arrives, the child, whether adequately nursed by the mother, or reared on cow's milk, begins now to be able to digest farinaceous and other kinds of food; but its digestive organs are even yet not fully developed, and the transition from the breast to ordinary food frequently proves a severe tax to its powers. It frequently fails to digest its food properly, and suffers from stomach and bowel disorders caused by indigestion. Here indeed malt extract proves a boon. It insures the digestion of all kinds of starchy food, it aids in the digestion of milk and animal food, and supplies also needed nourishment. The child relishes Trommer's Extract of Malt and calls for it as a sweet confection. Those parents who have experienced its excellent effects upon one child would not forego its advantages whenever occasion demands its employment.

For the indications for the use of Extract of Malt in the various diseases of children the reader is referred to the statements of physicians on this subject in another part of this pamphlet.

Extract of Malt for the Aged.

"It is with especial pleasure," writes Dr. DARLING, of Brooklyn, New York, "that I acknowledge the greatest benefit derived from its use by my own mother, *in the debility of old age*." And this is but one among thousands of similar instances.

As the changes, incident to advancing years, come on, the digestive organs share, with every other part of the organism, in the decline of functional activity. All the digestive juices are secreted in smaller quantity, and possess less transforming power. The teeth become defective or are lost, mastication is difficult and inefficient, the muscular walls of the stomach and intestines are enfeebled. The individual is able to digest less food and requires less. It is necessary to use more care in the diet. Slight errors in this respect are visited by increasingly serious consequences.

After what has already been stated concerning the properties of malt extract it is hardly worth while further to particularize its adaptation to this condition of age. *It supplies a bland, concentrated nutrient, which at the same time aids digestion*, and this is the essential need at this time of life. The individual using it has better digestion and is better nourished, and this explains why he derives substantial benefit from it.

Nutrition in General Functional Neurasthenia.

Neurasthenia.

BY C. H. HUGHES, M. D.,

Lecturer on Nervous Diseases, St. Louis Medical College; Late Superintendent Missouri State Lunatic Asylum; Honorary Member British Medico-Psychological Association; Editor of the *Alienist and Neurologist*.

Neurasthenia is a condition of the nervous system, which we recognize, not only in the functional expression of neurasthenia, but it is an underlying or sequence factor in all diseases of a generally debilitating character. It is the neural *substratum* of functional exhaustion.

A neurasthenia of that portion of the nervous system concerned in the reparative and reconstructive processes is, at least, one of the basic neural conditions in diseases of debility, whether we recognize a trophic

Disorders of
stomach and
bowels.

Of great
benefit in
old age.

A concentrated
nutrient.

nervous system proper, or whether we attribute all asthenic conditions to a defective state of the vasomotor system and the blood of the vessels. A neuratrophia, in either view, either precedes or follows the cachæmic or anæmic state.

No therapy that ignores reconstruction of tissue as an essential therapeutic measure, not leaving adequate nourishment to the chance of the patient being fed sufficiently of proper food, can be as certainly or as speedily successful as that which recognizes and prescribes a systematic and certainly assimilable nutrition. No state of neuratrophia can exist either as a disease, *sui generis*, or through organic implication of the vascular, lymphatic or osseous systems, or through involvement of the great viscera and secondary implication of the nervous system, in which to feed well of unirritating and assimilable food is contraindicated, but it is essential that alimentation must in many physical morbid conditions be of an unirritating and readily assimilable form. The necessity of nutrition in disease instead of an abstemious diet, should be universally recognized by practitioners; for a sick man has more need of nourishment while disease is wasting him and irritating his nervous system, so as to call for greater repair and consequent stamina to then withstand the assaults of disease, than a man that is well and has only to supply repair to compensate daily physiological disintegration. In former times when food was cruder and aliment had to be digested in the system of the sick patient before it could be used to supply the reparative demand of the wasting economy, abstemiousness could be more rationally prescribed in order to avoid the systemic irritation of imperfect efforts at digestion. But now when digested aliment is already made, when peptones, peptonoids, and the pancreatic and gastric juices are supplied to the physician's hand, and when, best of all, the purest Extract of Malt can be administered, making the patient's adequate nutrition an assured matter, there is no excuse for the starvation plan of treating diseases, and it will go the way of that other medical mistake of the past, viz.: the withholding of fluids from the heated blood in fevers.

Neuratrophia is not only a disease of debility, but it is the accompaniment of all wasting diseases, and for this condition the Extract of Malt is always indicated, being itself nutritious and reconstructive, while at the same time, it promotes digestion of the starchy element of such food as it may find in the alimentary canal. So that the prescribing of some good plain malt, preferably, in my opinion, the malt of Trommer, has become a routine practice with me, not a therapeutic hobby, but a rational therapeutic precept, based upon physiological, pathological and chemical consideration, because it is desirable to maintain, so far as the powers of assimilation remaining to one's patients will permit a satisfactory state of nutrition; for if we fail in nourishing our patient adequately other medication is vain. This indication the pure Extract of Malt fills better than any one article in our reconstructive armamentarium, and to it may be added such other reconstructives of tissue, neural and hæmic tonics, as may be indicated in the judgment of the physician, such as the hypophosphites, strychnia, arsenic, iron, etc., and in such proportions as symptoms at the time suggest to the prescriber. Certain proprietary establishments have of late undertaken to manufacture prescriptions ready made for the physician, but inasmuch as the proportions of the other agencies besides the malt should vary in the judgment

Nutrition in disease.

A therapeutic precept, based on physiological, pathological and chemical consideration.—Hughee.

of medical men for different cases, the medical adviser had better prescribe these additions. My rule has been and is to make my own compound, prescribing the plain Extract of Malt as a vehicle, in certain cases but more often using Trommer's plain Extract uncombined.

No person is made worse by Malt Extract, no matter what his ailment may be, not excepting diabetes mellitus, for it is not the surplus sugar in the system that is here at fault, and the satisfaction which a course of Malt Extract has so often given me in the management of all neuratrophic and neuropsychic states, has led me to adopt the plan, whatever else I prescribe, of directing pure, plain Malt Extract on the patient's table, to be taken *ad libitum* within certain reasonable limits, at each meal. If nutrition of this certain kind is prescribed, and not left to the patient's discretion, we may be assured, at least, that he will be reasonably well nourished pending our effort to eradicate his disease and reconstruct him.—*Medical Herald, Louisville.*

Diseases of the Bones, Joints, &c.

Dr. WYMAN, Professor of Principles of Surgery and Operative Surgery in the Michigan College of Medicine and Surgery, Detroit, Michigan, in a recent paper in the *New York Medical Journal*, on the *Constitutional Treatment of Caries and Necrosis*, refers in the following language to the adaptation of Extract of Malt to these affections:

"Children are the most frequent sufferers by these diseases. The impaired digestive functions in children yield more readily to properly selected treatment than is the case with adults. The conversion of starch into sugar by the digestive ferments is more frequently impaired in children suffering from caries and necrosis than is the conversion of albuminoids into assimilable substances. The use of malt diastase is, therefore, indicated on the best of physiological grounds. Hip joint disease, caries of the spine, chronic inflammation of the knee, and caries of the long bones, are for some reason, constantly accompanied by mal-assimilation and indigestion of the starches. When such cases proceed to a good, sound recovery it is through a thorough restoration of this particular digestive power, or a compensatory increase of the digestive power for hydro-carbons. In no case of hip-joint disease, were the operative methods ever so carefully or skillfully performed, has there been a repair of lesions until the digestive ferments have handled the starches perfectly. The same fact applies to the other varieties of bone disease above mentioned.

"My experience in the treatment of hip-joint and spinal cases, necrosis and caries of the various bones, embraces large numbers of cases, probably because my professional brethren have lacked the patience and perseverance and rigid attention to the digestive powers essential to the cure of these long time maladies. The Trommer Extract of Malt has been of great service in enabling me to bring numbers of these cases to a happy termination, and in a space of time of shorter duration than is accomplished by the use of cod liver oil or hypophosphites.

"I attribute the good results in the cases mentioned fully as much to the artificial digestion of starchy foods craved by these patients as to the operative methods employed, and believe that in many instances the cases would have progressed to the same happy ending had the rigid attention to the diet only been employed but more time would have been necessary."

Importance
of starch
digestion in
diseases of
bones and
joints.—Prof.
Wyman.

[From the Louisville Medical News.]

Notes on the Therapeutic Uses of the Extract of Malt.

BY DOUGLASS MORTON, M. D.

I have been using the Extract of Malt for some months, and with results so satisfactory that in making them known I feel that I do the profession real service. It gives me pleasure to contribute an account of some of my experience to your columns.

Have been using it with very satisfactory results.

CASE I.—Miss F., a young lady of about twenty-three years of age, came under treatment last spring. She belonged to a family several members of which had died of tubercular disease—among others a sister, of “consumption of the bowels.” At this time she was exceedingly frail and badly nourished—weighing only ninety pounds, although of medium height. For a few days she had been suffering from abdominal pain and tenderness, with rise of fever in the evening. Her appetite had been very poor all the preceding winter, and now she had none at all. For some time she had had troublesome dyspepsia, and found it necessary to limit herself to a very few articles of food.

I believe these symptoms and others that appeared in her case to be due to tuberculosis already established in the tissues connected with the intestinal tract, or at least to the state of congestion which precedes the actual deposit of tubercular matter. The most important part of treatment in this case was, of course, that relating to diet and hygiene, especially since neither alcohol nor cod liver oil could be borne. I recommended milk and a plenty of fresh air; but though the former was not distasteful to her she had no special relish for it, and her strength was not sufficiently built up by it (this being almost her sole article of food) to enable her to enjoy or even to endure out-door exercise of any kind. This being the state of affairs, I ordered Trommer’s Extract of Malt as an experiment, (for at this time I had decided lack of confidence in its vaunted merits), and indeed feared that my patient, with her delicate stomach, would not be able to bear either its appearance or taste. But, to my surprise, she could not only take it, but actually liked it. Of its effects upon her it is enough to say that her health was greatly improved, and that it has continued comparatively good up to the present time.

CASE II.—Miss S. came under treatment last summer. She is about twenty-eight years old and has been in poor health for several years, her malady being chronic bronchitis, with its not unfrequent concomitant, asthma. I found her greatly reduced in flesh and worn out from loss of sleep, occasioned by paroxysms of coughing and of asthma. She suffered, moreover, from a peculiar neurosis of the stomach and oesophagus, which gave rise at times to a most obstinate hic-cough, that would keep up for hours, and again to a disagreeable sensation of having a ball in the throat—a sort of “globus hystericus.” She had lately been having fever in the evening, and had completely lost her appetite. By physical examination I found the usual evidences of bronchitis with asthma, as well as indications that areas of lung tissue here and there had undergone solidification. I had little hope of this patient deriving material benefit from any treatment. Her cough was severe enough to

Good effects in Phthisis.

require opium, and I tried to relieve the gastric trouble with hydrocyanic acid and bismuth. As a combined food and stimulant, I prescribed the old-fashioned mixture of rum, fresh linseed oil and honey; but excepting the temporary relief given by opium, this treatment proved a failure, and I again tried the Extract of Malt, and with results more satisfactory than in case I. My patient commenced at once to improve in every particular, and was soon able to get out of bed and ride out every day, and has gotten through the winter thus far much more comfortably than she did last year. She has taken this remedy pretty constantly to the present time, and does not find it at all unpleasant.

CASE III.—Mrs. T., aged about twenty-eight, came under treatment last summer. She had borne two children, which had died, and has miscarried twice. For some time she had been losing flesh and suffering from "nervousness" and melancholy, which succeeded the deep grief occasioned by the loss of her children. She had also been a victim to troublesome dyspepsia, attended with gastralgia, flatulence, and constipation. I advised her to try to employ herself actively and usefully, and at the same time to seek the diversions of society, and to take a plenty of out-door exercise. In the meantime I regulated her diet, and addressed medical treatment to her dyspepsia. She was a model patient and faithfully carried out my instructions, but with no marked improvement until I put her on Extract of Malt early in December. This she has continued to take quite regularly until lately; and with greater benefit, she assures me, than anything else has given her.

CASE IV.—Miss T., twenty-two years of age, came under treatment for dysmenorrhœa on the 13th day of last December. She had passed her catamenial period about the first of the month. Menstruation had for some months been attended with more pain than usual, but at this period and the one immediately preceding her suffering had been extremely severe. I found her nervous, irritable, and entirely without appetite. For some time past she had been suffering considerable pain in the left ovary during her catamenial intervals, and it was now so tender that either walking or riding gave much pain. Having lived on a surprisingly small amount of food for the past two months, she had lost considerable flesh and was very weak.

Along with the local treatment addressed to the disease of the ovary, which I considered the chief cause of the dysmenorrhœa, I thought it important to try to improve my patient's nutrition directly. All her tissues needed nourishment. Her sleeplessness and irritability showed this of the brain; peripheral hyperæsthesia proved the same for the nerves, and loss of weight for the tissues generally. Having poor digestive powers and no appetite, it was important that she should have food at once relatively small in bulk, highly nutritious, and readily digestible. My previous experience with the Extract of Malt led to its selection as filling these conditions. Miss T. took it without difficulty, and it is sufficient to say here that in the result my hopes were fully realized.

The four cases reported have one important condition in common, viz.: failure of digestive powers with its necessary consequence - impaired nutrition. This, in the two first was associated with organic disease of the digestive organs, in the others it seemed to be due to the debilitating influence of prolonged pain, which in one case was mental, and in the other physical.

The need of alimentation was paramount in all, and to secure this was the chief aim of treatment. No sort of diet was sufficient for this purpose, and in all four cases there were objections to cod liver oil. In neither of the three cases in which drugs were used to remedy the dyspepsia, did they seem to do any good; and the Extract of Malt was prescribed, that by its high degree of digestibility this trouble would prove no bar to the attainment of the end in view.

As regards the absolute nutritive value of Extract of Malt, it may be inferior to cod liver oil, but my experience justifies me in thinking it makes up in being applicable in a far greater number of cases.

The administration of the Extract of Malt in case IV occurs to me to have been especially appropriate; for it must be borne in mind that food is not simply for maintaining structure and keeping up physical strength against the "wear and tear" incident to the normal exercise of functions, but for restoring vital force when lowered and wasted by pain; for pain is the means of such waste, as well as its expression. In his work on Stimulants and Narcotics, *Anstie* places food at the head of the remedies for pain, and says: "I do so because if food can be digested there is nothing which in so many cases relieves pain with satisfactory celerity, unless it be kept up by a mechanical cause." In case IV, there were loss of appetite and impaired digestion, and the Extract of Malt was given because it is an easily digestible as well as a nutritious food. I regret that I have not had opportunity of trying Extract of Malt in typhoid fever; for we have conditions in this disease to which I think, on *a priori* grounds this food is eminently adapted.

At the head
of remedies
for pain.
—Anstie.

LOUISVILLE, KY.

Prof. Webber, on the successful use of Extract of Malt in the treatment of Cholera Infantum and as a restorative in surgical cases.

DETROIT, Aug. 9, 1888.

In the extreme exhaustion resulting from cholera infantum, where dissolution seemed imminent, I have had most gratifying results in the use of Trommer's Extract of Malt, used in conjunction with milk and some of the farinaceous preparations. Before using the Malt some of my cases went on from bad to worse, the debility increasing, notwithstanding my best endeavors to prevent it, until the Malt was added, when a new force seemed to be applied to the digestive process and they began to gain and eventually regained robust health. I have also found great benefit in its use after operations for ovarian tumors and other laparotomies. In quite a number of cases it was well borne by the stomach and imparted a strength that I failed to get where beef tea and animal broths have been given. Trommer's new preparation of Diastasic Food is to all intents and purpose the same kind of food as that of the Extract of Malt added to the farinaceous preparations that I have used so successfully with children, and I believe from the ease with which it is prepared that it will meet with great success.

N. W. WEBBER, M. D.,

Prof. Gynaecology Detroit College of Medicine; Consulting Physician St. Mary's Hosp.

Successful
use in cholera
infantum.

Prof. Edward W. Schaufller on Trommer's Extract of Malt.

(From the Article on Pulmonary Diseases in the *Reference Handbook of the Medical Sciences*, Vol. V, page 666, Wm. Wood & Co., New York, 1887.)

"There are many preparations of the drug (Cod Liver Oil) now in the market, in which its disagreeable odor is sought to be covered. In many of these the emulsion of oil is combined with the hypophosphites of lime, soda, manganese, etc. There is no objection to this combination, provided the requisite amount of cod liver oil be present. One of the best combinations is that of the oil with Trommer's Extract of Malt. The Malt aids materially in its digestion, as well as in the digestion of foods, and patients taking this preparation will usually improve in appetite."

Remarks on Extract of Malt and its Combinations. .

BY J. J. MULHERON, M. D.,

Dean and Prof. Pathology, Practical Medicine and Clinical Gynaecology, Michigan College of Medicine and Surgery.

When decomposition takes place of digestion we have absorption of unnatural products.

"My experience with Extract of Malt has been confined to its use in diseases of malnutrition and mal-assimilation. In such affections the stomach and the digestive portion of the intestines are primarily involved, and these failing in their functions, decomposition takes the place of digestion and we have absorption of unnatural products, with the long line of disorders which follows, and to which a variety of names is applied.

"An analysis of Extract of Malt suggests this article as a valuable agent, and its employment quite justifies the hope inspired of such an analysis. Besides its tonic properties, it is rich in food (maltose) which has undergone an important step in the process of digestion. In the latter property it possesses a great advantage over cod liver oil, which so often not only offends the impaired stomach, but which is, under most circumstances, so difficult of digestion.

"It is further valuable because of its property of emulsifying cod liver oil, and thus aiding in the digestion of the latter, and, indeed, it is in such combination that I have had most experience in its use. In several cases in which I regarded the oil as indicated it positively disagreed, *but became perfectly tolerable when given in emulsion with the Malt Extract.*

"In support of the proposition that Extract of Malt merits a thorough trial at the hands of the profession, I submit the following reports from cases which have been under my charge:

"Mrs. R. consulted me three years ago last May for an annoying cough. I ascertained that her health had been failing for some time and that she had lost flesh appreciably. She complained of dyspnea on the slightest exertion. Expectoration was very scanty and of tenacious mucus, with occasional streaks of blood. Digestion very imperfect, with much acidity and eructation. Appetite very poor. Inspection revealed diminished expansion in the infra-clavicular portion of left lung. Percussion elicited but slight dullness. Auscultation showed respiration to be interrupted in its rhythm and somewhat bronchial. Here was a case of incipient fibrous phthisis, a diagnosis made more clear by its subsequent history. I placed her on cod liver oil and ordered a mixture for the relief of the annoying cough. The latter had the effect of giving slight relief but the oil was not tolerated. After three months it was painfully manifest that the disease was progressing.

"Shortly after this she became pregnant, and this was followed by an improvement of all the symptoms referable to the lungs. With the exception of a slight roughness in the respiratory murmur, no trace of the lung difficulty remained at the sixth month of pregnancy. At the seventh month, however, she miscarried; the child lived thirteen hours. Immediately after, the unfavorable lung symptoms returned with increased severity, and continued in spite of treatment. I then placed her on Extract of Malt. After taking two pints of the Plain Extract, an im-

Advantage over Cod Liver Oil.

Reports of Cases, Phthisis.

provement in her digestion and in her general symptoms was noticeable. I then gave her the combination of the Extract with Cod Liver Oil. After a bottle of this (which agreed perfectly) had been taken she was able to leave her bed for the first time since her confinement, three months previous. She has since been taking regularly the Malt with the Oil in combination, and on a visit to her yesterday I found that the disease had made no progress since my last examination some three months ago. The respiration sounds have improved, if anything, and I am led to hope that ultimate permanent good may follow the treatment. I cannot but believe that had the Extract of Malt been resorted to when I was first consulted a train of very threatening symptoms might have been averted.

Miss W., aged 19, consulted me October 5, 1877. Her's was a typical case of chlorosis. She had consulted and had been treated by several of our leading physicians, but without benefit. Supposing that the usual remedies in such cases had been employed, I placed her on Extract of Malt with Cod Liver Oil and Iodide of Iron. The improvement which followed was very marked and after the sixth pint had been taken, menstruation, which had been suspended for several months, was re-established, and after taking two more pints further medication was considered unnecessary.

"I regard the combination of Extract of Malt with Pepsin as one of the most valuable additions to our list of physiological medicines, and without taking up your time with the details of cases in which I have employed it, I know of no remedy of such service in functional dyspepsia. In that deplorable condition of the stomach following the drunkard's prolonged debauch, Extract of Malt with Pepsin is of great benefit. In the emaciation and condition of marasmus, following the summer diarrhoea of children, it is also a sovereign remedy. The hints on epidermic medication in a recent number of the *Michigan Medical News*, by Dr. Wade, of Holly, led me to apply it in the manner recommended and with very favorable results.

In Chlorosis,
—Mulheron.

Functional
Dyspepsia.

Diseases of Children.

Extract from a paper read before the Kentucky State Medical Society, by JOHN A LARRABEE, M. D., Prof. of Materia Medica and Therapeutics, and Clinical Lecturer on Diseases of Children, in the Hospital College of Medicine, Louisville, Ky.

* * * * "I have given these preparations (Trommer's Extract of Malt), to over three hundred patients during the past year, including private and clinical practice, selecting such as I deemed suited to the wants of the several cases, and I have yet to see a single case in which benefit has not accrued from its use. It may be said that the medicines contained in some of the preparations should have the credit, but I have been careful to use such preparations in cases where the medicinal agents therein contained have before been given with little or no advantage."

"In tuberculosis and scrofulosis I have found the Malt Extract to improve nutrition and arrest the progress of the disease, acting in this way similarly to cod liver oil, save that its effects are seen to be more decided, and it agrees better with the stomach, a matter of no small importance in advanced cases.

Have given
it in over
300 cases.

Arrests the
progress of
disease.

In whooping-cough. "In the continued cough of pertussis, where, after the acute stage has subsided, the patient has prolonged spells of coughing, I have found the plain Extract of Malt to exercise a most marked effect. Children not infrequently continue to cough like whooping cough for a year or more after having had the disease. In all such cases the cough is kept up by the bronchial glands enlarged in the acute stage; and such cases, if left alone, are fit subjects for early consumption. Malt Extract is well adapted to this stage of convalescence.

"In convalescence from the ordinary fevers, and especially remittent, the 'plain,' 'ferrated,' or that 'with citrate of iron and quinia,' is *par excellence*, the treatment.

"It is unnecessary that I should attempt to enumerate the diseases in which Malt Extract has proven beneficial. It appears to strike at the root of mal-assimilation. An explanation of the various conditions which are or may be expected to be relieved by Extract of Malt may possibly be found in the various stages in which digestion is arrested, and the power of this digestant to carry this process to its ultimatum in the tissues. A closer study of ultimate digestion is necessary, however, before we can give the rationale of the efficacy of this medicine for food.

"I have not had sufficient experience with the use of Malt Extract upon the rheumatic diathesis of childhood to draw any positive conclusions concerning it, but I am quite confident that, by carrying starch through its changes to a rapid end of combustion, it is well calculated to accomplish good. The liability, therefore, to remain as lactic acid will be greatly lessened. In six cases it was of decided benefit in securing an immunity from the hitherto frequent attacks of rheumatism, one of which had suffered eight attacks of rheumatism in five years, and had extensive cardiac lesion."

Decided help to assimilation. A large number of the cases presented for treatment at the "Children's Clinique," as well as in private practice, are of this class. At first, I felt a hesitancy in prescribing the Malt Extract for such, on account of its syrupy character, fearing that it would increase the acidity of the *prima via*. A test of a few cases, however, convinced me that it did not thus operate deleteriously, but was, as it proved in other cases in which I employed it, a decided help to the better assimilation of food in children.

Acts in the economy like Cod Liver Oil. The preparation marked "with Iodides," was used with unmistakable advantage and benefit in four cases of *Bronchial Phthisis*, and one of *Chronic Hydrocephalus associated with Tuberclle*. It can not I think be doubted that sugar, and especially barley sugar, acts in the economy of the child very much as *cod-liver oil*, hence the benefit which I have found to accrue from the Malt Extract in children suffering from incipient or advanced mesenteric or pulmonary phthisis. The same preparation, viz., "with Iodides," was used in three cases of *Enlargement (Serofulous) of Cervical Glands* with marked benefit and a cure.

The preparation marked "with Ilypophosphites" was used in four cases of *Rachitis* with evident improvement—when the supply gave out.

As a *Galactagogue*, I have used the simple Malt Extract quite extensively in private practice. Women who, on account of deficiency in quantity and quality of their milk, were unable to sustain their infants, are enabled by the use of this valuable nourishment, to rear plump and healthy children at the breast.

J. A. LARRABEE, M. D.

Increases and improves secretion of milk.

Food and Food Medicines in Surgery.

Extract from a paper by the late R. O. COWLING, A. M., M. D., Professor of Principles and Practice of Surgery, University of Louisville, in *Louisville Medical News*.

"I have long regarded food as the first of remedies, and have taken it as a chief maxim in practice that a return to health lies through a return of the assimilative powers and a desire for natural aliment; that whenever a drug is administered it is but a means to this end; and that, in every instance, its nauseant powers, which are generally certain, are to be weighed against its antidotal virtues, which, are, except in a few instances doubtful. * * *

Have long
regarded
Food as
the first of
remedies.

"Concerning the virtues of Extract of Malt, which was introduced into this country by the Trommer Extract of Malt Company, I can speak in a decided manner. An extensive trial of this remedy in the acute and chronic disorders of Surgery, during the past three years, has convinced me that it is a food-medicine of undoubted power, and the general hold it has gained upon the professional mind in America shows that I share a very common opinion in regard to its merits.

Food
medicine
of undoubted
power.

"The introduction I had to this remedy was such as to make a lasting impression upon me. In August of 1879 a patient, aged five, in whom I had far more than a professional interest, after a slight indisposition for several days began to show an elevation in temperature. As this was decidedly periodic, I thought it, of course, to be of malarial origin, and gave myself but little concern about it until I discovered it could not be permanently controlled by quinine. In decided doses the temperature would come down for a day, to rise again the next—reaching a maximum of 101°. Languor, weakness and anorexia increased; within a fortnight cough and bronchitis were established, and the patient was at length forced to keep her bed. As the symptoms did not improve, the thought came to me that it was tubercle I had to combat. Oil was rejected, or taken after such a struggle that I substituted Trommer Malt Extract. Its beneficial effects were apparent in a very short time. The temperature speedily came down and remained down, the cough disappeared, and in a fortnight the child was at play. The disease was one of malnutrition; and I have always thought that what was or might have been the development of tubercle was arrested by the Malt and milk upon which alone the child was kept after the first attempts to arrest the disease with antiperiodics.

Beneficial
effects
apparent in a
very short
time.

"With such an introduction as this, of course I was led to use it in practice, and there are few accidents or diseases of Surgery in which I have not tested its virtues—so much so, in fact, that I fear their enumeration will sound much like an index." * * *

There are
few diseases
of surgery
in which I
have not tried
its virtues.

MALT EXTRACT IN EUROPE.

Extract
Malt in
Europe.

The recent medical literature of Europe gives strong evidence of the value of Malt Extract as a medicinal agent. Niemeyer, Oppolzer, Werber, Bock, Hoppe-Seyler, Heimerdinger, Juergensen, Schroeder and Ziemssen, in Germany; Trouseau, Gossein, Hardy, Mauduit and Pillois, in France; Ramagalia, Testa and Tartaglia, in Italy; Aitken, Anstie, Richardson, Chambers, Fothergill, Roberts and Thompson in England, are among the foreign writers who speak in favorable terms of its use.

Dr. F. Niemeyer, Prof. and Director Med. Clinic, Consulting Surgeon to the King of Würtemberg, Author of Text-Book of Practice of Medicine:

"The class of diseases in which the chief, if indeed not the only task of the physician, is to maintain or restore the strength and nutrition of the patient is very large. For several years past, to meet these indications, instead of prescribing cod liver oil, which I was formerly in the habit of doing, I have employed, almost exclusively, Trommer's Malt Extract, and with the very best effect. This substance must not be confounded with Hoff's and other so-called malt extracts, which are only a kind of beer containing a large proportion of carbonic acid and alcohol, which are often injurious to the patient. It is similar to other medicinal extracts, and consists of the soluble constituents of Barley Malt."

Dr. Hoppe-Seyler, Professor of Physiological and Pathological Chemistry, University of Strasburg, by analysis, found Malt Extract rich in Malt Sugar, Dextrine and Diastase. According to the researches of Dr. Schiff, Dextrine possesses the property of increasing the secretion of Pepsin. Considering this important fact, in connection with the action of Diastase in converting Starch into Maltose and Dextrine, and the nutritious and restorative properties of the Maltose, Alkalies and Phosphates, he expresses the opinion that, both as a nutrient and medicinal agent, Malt Extract is of great value.

Dr. Lersch, Inspector of Mineral Springs at Aix and Bentscheid, in "Schmidt's Jahrbücher," No. 159, page 227:

"Malt Extract is an excellent nourishing agent for the weak, emaciated sick; and it is in this class of cases that its manifold therapeutical application has been established."

Prof. Werber, Director of the Polyclinic, University of Freiburg, commends Malt Extract as being very efficacious in the diseases of children of scrofulous tendency, who suffer from impaired digestion, poor nutrition and protracted coughs, following acute catarrhal affections. In these cases it may be employed instead of cod liver oil with great satisfaction.

The late Prof. Oppolzer, of the University of Vienna, (Special Pathology and Therapeutics, page 481,) recommends Malt Extract as especially efficacious in whooping-cough and anæmia.

Staff Surgeon Dr. Heimerdinger, of Ludwigsburg, in addition to the usual practice of prescribing Malt Extract in pulmonary and digestive diseases of adults, recommends it in infantile intestinal catarrh, characterized by debility and emaciation.

Dr. Gusman, of Stuttgart, declares that Malt Extract has rendered excellent service in diseases of the lungs, stomach and bowels, in cases of chronic catarrh, and in the catarrhs of asthmatics, and when the lungs were emphysematous a decided improvement followed its use. His experience was equally satisfactory in protracted and exhausted cases of whooping-cough.

It is worthy
of special
remark
that the
foregoing
statements
relate
exclusively
to experience
in the use of
Trommer's
Extract of
Malt.

The following List comprises the various combinations of Trommer's Extract of Malt, with a brief description of the indications for their use: *

EXTRACT OF MALT,
With Hops (Plain.)

*Commended by the most eminent Physiologists, Chemists and Physicians
of all Countries, as:*

Doctors FRESENIUS, IMMERMANN, NIEMEYER, OPPOLZER, WERBER, BOCK, HOPPE-SEYLER, HEIMERDINGER, JUERGENSEN, SCHREIDER and ZIEMSSEN, in Germany; TROUSSEAU, GOSSELIN, HARDY, MAUDUIT and PULLOIS, in France; RAMAGALIA, TESTA and TARTAGLIA, in Italy; AITKEN, ANSTIE, RICHARDSON, FOTHERGILL, ROBERTS, CHAMBERS and THOMPSON, in England; LARRABEE, PALMER, CHAPMAN, PEPPER, WYMAN, COWLING, WEBBER, SCHAUFFLER, MARVIN, DOUGLAS, DUNSTER, CALDWELL, GRIFFITH, MORTON, HUGHES, LOEWENSTEIN, DARLING, BYRD, BARRET, BRIDGE, ADOLPHUS, AUSTIN and BUIST, in the United States; LACHAPELLE, MALLOCH, GRANT, McCONNELL, KENNEDY, MARSDEN and MITCHELL, in Canada.

Impairment of the digestive functions and especially of the power to digest starchy food and fats is a marked feature of chronic wasting diseases and of severe or protracted fevers. TROMMER'S MALT EXTRACT more certainly and more promptly corrects these faults of digestion than any other remedial agent. "It is an excellent nourishing agent for the weak, emaciated sick," writes Dr. LERSCH, "and it is in this class of cases that its manifold therapeutical application has been established."

Trommer's Extract of Malt acts not only as an aid to digestion but is also a highly concentrated and largely predigested nutrient, supplying nourishment to all the tissues and forces of the body, and is rich in flesh-forming and nerve-invigorating substances. Taken along with food it is a powerful digestive or solvent of all kinds of food prepared from the various cereals and actively promotes the digestion of milk and animal food. "It is," says Prof. MARSDEN, "the most valuable aid we possess in all cases where impaired digestion and malnutrition obtain."

From PROF. FRESENIUS' Report: "In consideration of its great *Diastasic power*, its stability, together with its agreeable taste and odor, I can pronounce the Malt Extract of the Trommer Extract of Malt Company a *superior preparation.*"

DR. R. FRESENIUS, Wiesbaden, Germany.

From PROF. MARVIN'S Report. The following, from a review of The Fifth Annual Report of the State Board of Health of Kentucky, is taken from the *Journal of the American Medical Association*:

"Prof. Marvin obtained from a well known wholesale house bottles of each of the following brands: Trommer's Extract of Malt, Maltine, Keasby & Mattison's, John Hoff's (imported), John Hoff's (Tarrant's), Liebig's and Shaker's Aromatic Elixir. After applying the test most carefully under identical conditions, he places the TROMMER EXTRACT AT THE HEAD OF THE LIST, having found it to possess most active *Diastasic Properties.*"

PROF. LARRABEE'S statement: "I have given these preparations of TROMMER'S EXTRACT OF MALT to over THREE HUNDRED patients dur-

Dr. Lersch
states: "Its
manifold
therapeutical
application
has been
established."

* The originators and manufacturers of Trommer's Extract of Malt and Diastasic Food are practicing physicians and chemists. They consequently have kept in view the adaptation of these preparations to practical therapeutics. In the course of correspondence with physicians extending through a series of years they have received much useful information and many valuable suggestions which are thankfully acknowledged. They are ever ready to respond to all inquiries relating to these preparations and their appropriate uses.

Given to over
300 patients
with benefit
in every case

ing the past year, including private and clinical practice, selecting such as I deemed suited to the wants of the several cases, and I have yet to see a single case in which benefit has not accrued from its use. * * * It is unnecessary that I should attempt to enumerate the diseases in which Malt Extract has proven beneficial. *It appears to strike at the root of mal-assimilation.* In tabes, in the dyspeptic forms of anaemia, in fact, in wasting diseases generally, it has exceeded my most sanguine expectations."

Dr. F. NIEMEYER, Prof. and Director Med. Clinic, Consulting Surgeon to the King of Würtemberg, Author of Text-Book of Practice of Medicine:

"The class of diseases in which the chief, if indeed not the only task of the physician, is to maintain or restore the strength and nutrition of the patient is very large. For several years past, to meet these indications, instead of prescribing Cod Liver Oil, which I was formerly in the habit of doing, I have employed, ALMOST EXCLUSIVELY, Trommer's Malt Extract, and with the very best effect. This substance must not be confounded with Hoff's and other so-called Malt Extracts, which are only a kind of beer containing a large proportion of carbonic acid and alcohol, which are often injurious to the patient."

EXTRACT OF MALT,

With Alteratives.

A tablespoonful contains

Chloride of Calcium,	10 grains.
Iodide of Calcium,	$\frac{1}{2}$ grain.
Iodide of Iron,	$\frac{1}{2}$ grain.
Bromide of Sodium,	2 grains.

This combination is nutritious, tonic, restorative and alterative. The Chlorides, Iodides and Bromides are particularly indicated in diseases of scrofulous origin, which are characterized by general perverted glandular action, by degeneration of the bones, cartilages and joint tissues, by cutaneous eruptions, and catarrhal affections, particularly those of the eye, ear and nasopharyngeal passages.

In the *London Lancet*, reprint of November, 1877, Robert Bell, M.D., F. F. P. S. G., physician to the Glasgow Institution for Diseases of Women and Children, etc., strongly urges Chloride of Calcium upon the attention of the profession. In concluding a lengthy report of successfully treated cases of tuberculosis of the lungs, of the mesentery and the joints, of glandular enlargements and fistulous abscesses, and of the wasting diseases of children, he adds: "Chloride of Calcium possesses a most wonderful power in controlling, if not actually curing many forms of tuberculous disease. In my experience I have found no remedy on which so much reliance can be placed in tuberculous diseases as on this salt; more especially, however, this remark applies to the wasting diseases of children. * * * In the wasting diseases of childhood, be these tubercular or not, Chloride of Calcium has proved itself to be, in my experience, a therapeutic agent of inestimable value. Its powers are, in my opinion, superior to Cod Liver Oil or Iron, and, what is of no little advantage, very young children soon get to taking it quite readily. * * * In the Cambridge-street Orphanage, of which I have charge, the majority of the children, when admitted, are in a

Robert Bell
strongly
urges
Chloride of
Calcium as a
therapeutic
agent of
inestimable
value.

most pitiable condition; in more than half of them the signs of tubercular diseases are apparent. The Chloride of Calcium has here been put to a crucial test, but it has shown itself to be worthy of the trust reposed in it, for in none of the cases has it proved to be of no benefit. All the children to whom it has been administered have improved under its use, and the majority of those affected appear to have shaken themselves clear of the disease altogether. * * * In the tubercular disease of bones and joints of children the beneficial effects of Chloride of Calcium are very marked."

The efficiency of Chloride of Calcium is greatly promoted by combination with other Alteratives of analogous properties, in small proportions as it is found to exist in the waters of certain mineral springs celebrated for their curative virtues, especially in scrofulous affections. The formula above given, has been employed in practice by physicians of high standing with very satisfactory results. We confidently commend this preparation to the attention of the profession.

EXTRACT OF MALT,

With Pyrophosphate of Iron (Ferrated).

A tablespoonful contains

Pyrophosphate of Iron, 4 grains.

The combination of Extract of Malt with Pyrophosphate of Iron has been received with marked favor by the profession, the demand being nearly equal to that for the Plain Extract. The Pyrophosphate agrees with the stomach, as well, perhaps, as any other preparation of Iron, and appears to be, practically, one of the best means of introducing both Iron and Phosphorus into the system. The characteristic improvement attending the administration of iron follows its use with striking promptitude. The nourishing, tonic and sedative properties of Malt Extract render the Iron more acceptable, and add greatly to its restorative virtues. Extract of Malt combined with Iron is preferred by many practitioners to any of the various phosphorized elixirs, pills, etc., so much in vogue, as giving more favorable results in the treatment of almost every form of disease, characterized by anaemia, especially when associated with feeble digestion and faulty assimilation.

Feeble
digestion
and faulty
assimilation.

EXTRACT OF MALT,

With Hypophosphites.

The best substitute for Cod Liver Oil.

A tablespoonful contains:

Hypophosphite of Lime, 2 grains.

Hypophosphite of Soda, 1½ grains.

This combination is being employed with constantly increasing favor, as its wider adaptation to the treatment of varied diseased conditions is becoming better understood.

As a medium for the administration of the Hypophosphites Malt Extract possesses advantages greatly superior to the ordinary syrups so much in use, because it is rich in Phosphates in the condition in which they exist in germinating grain, quickened as it were by the process of germination, and hence by many called VITALIZED. The Hypophosphites impart also increased vigor to the malt Diastase, augmenting its digestive action on starchy food, and thus correcting a form of indigestion which so constantly characterizes wasting diseases.

Employed
with
constantly
increasing
favor.

Dr. Taylor in his report on Hypophosphites says: "The introduction of these Hypophosphites into the blood produces a glowing influence—as a respiratory excitant, expanding the chest; as a pyrogenic, increasing animal heat and nervous force, and removing erratic pains; and as a hæmatogen forming a nucleus for the rallying of red globules; it increases appetite and cheerfulness, and controls expectoration, night-sweats, and diarrhœa. These points I have repeatedly proved."

In cases of prolonged nursing, the Hypophosphites are of inestimable value to both mother and child.

Their use is self-evident in diseases of the brain and nerve centers, in impotency, in lapse of memory, and many forms of mental derangement.

They are useful in the difficult and painful dentition of children.

They are nutrients to the brain, giving tone to the nervous system, relieving that feeling of depression and exhaustion which accompanies and follows nervous disorders, they increase the appetite, because they induce a better digestion and assimilation. In over exertion of the brain, in mental disorders, in those multitudes of cases of nervous excitement where sleep has become an impossibility, these Hypophosphites act better than any of the preparations of Opium.

EXTRACT OF MALT,

With Iodides.

A tablespoonful contains

Iodide of Manganese, . . 1 grain.

Iodide of Iron, . . 1 grain.

Sir J. Y.
Simpson
obtained
favorable
results.

The favorable results obtained by the combination of Iodine, Iron and Manganese, by the late Sir J. Y. Simpson and others, have been fully confirmed by more recent experience. Particularly recommended in anæmia, dependent upon scrofula, phthisis, cancer, the syphilitic cachexy, exhausting suppuration, enlargement of the spleen, and in chlorosis where iron alone has failed to improve the blood.

* * * I have given Trommer's Extract of Malt a fair trial in all cases of phthisis pulmonalis, and kindred affections, especially diseases depending upon constitutional causes, with impaired digestion, and can bear testimony to its tonic and alterative effects. This especially with the preparation combining the Iodides and Iron. It possesses superior advantages to the other preparations of "Malt" now offered for sale. I am very respectfully, J. S. BUIST, M. D.,
Surgeon and Physician in charge of the City and Marine Hospital, Ex-Adjunct Prof. Materia Medica,
S. C. Medical College, &c.

EXTRACT OF MALT,

With Citrate of Iron and Quinia.

(Citrate of Iron and Quinia U. S. P. 1882.)

A tablespoonful contains

Citrate of Iron and Quinia, . . 4 grains.

This preparation is an exceedingly valuable tonic, and is extensively and very successfully prescribed in the treatment of BOILS AND CARBUNCLES, in nursing sore mouth, neuralgia and in anæmic cases generally.

Citrate of Iron and Quinia is especially efficacious where impoverishment of the blood is associated with debility, loss of appetite and dyspepsia, and has been found very beneficial in the anæmic state following autumnal fevers, and in enlargement of the spleen.

In many chronic diseases, in which the cure is tedious or impracticable, the sufferings of the patient are often greatly lessened by remedies which

build up the system. We have received numerous reports of cases of uterine fibroids, and of diseases of the bones and joints, where great relief has been obtained and life prolonged by the use of this preparation.

It has also proved most beneficial in chlorosis, and the anæmia of children. It is an unsurpassed tonic and restorative.

An unsurpassed, pre-digested, nutritive tonic.

EXTRACT OF MALT IN COMBINATION WITH COD LIVER OIL.

The preceding description of the properties of Trommer's Extract of Malt are sufficiently suggestive of the appropriateness of these combinations. The Extract forms a perfect and stable combination with the Oil, renders it palatable and promotes its digestion. Many patients are able to take the Oil in this form who find it impossible to do so in any other.

As both the Extract and the Oil are peculiarly adapted to cases of anæmia, and of neurasthenia, and various forms of mental and nervous disorder, and their use is no longer restricted to chronic rheumatic affections, and pulmonary and other wasting diseases, the presentation of the Oil in a preparation that is not distasteful to patients has had the effect of greatly facilitating and extending its employment.

In many of the so-called EMULSIONS prepared with syrup, gum, etc., the proportion of these articles required to form the combination is so large as to exclude the proper quantity of the Oil; and the high flavoring used to conceal the taste soon become repugnant to many patients. Such mixtures do not compare in efficiency with our preparations, consisting only of pure DIASTASIC EXTRACT OF MALT and the best quality of Norwegian Cod Liver Oil.

For convenience of prescribing we make these combinations, as follows:

EXTRACT OF MALT, With Cod Liver Oil.

A palatable, stable, and efficient combination, consisting of 60 per cent of Trommer's Extract of Malt, and 40 per cent. of pure Norwegian Cod Liver Oil.

This, the most desirable preparation of Cod Liver Oil yet offered, supplies a much felt want, by enabling physicians to extend the use of the Oil to all cases in which it is indicated, combined with a substance that increases its efficacy by making it easily digestible, and acceptable to the most delicate stomach.

The properties possessed by Trommer's Extract of Malt of transforming unassimilable food into that which may be easily assimilated, of furnishing Phosphates to the system, of being itself bland and nutritious, and of forming also an unequalled combination with Cod Liver Oil, sufficiently attest the appropriateness of the combination.

Unlike any of the various bulky *emulsions* proposed with the object of masking the peculiar flavor of the Oil, in this combination are found but two substances and these of almost equal value in the treatment of the same class of diseases.

Not an "emulsion," but a combination of two substances of almost equal value.

PROF. EDWARD W. SCHAUFLER ON TROMMER'S EXTRACT OF MALT.

(From the Article on Pulmonary Diseases in the *Reference Handbook of the Medical Sciences*, Vol. V, page 666, Wm. Wood & Co., New York, 1887.)

"There are many preparations of the drug [Cod Liver Oil] now in the market, in which its disagreeable odor is sought to be cov-

ered. In many of these the emulsion of Oil is combined with the Hypophosphites of Lime, Soda, Manganese, etc. There is no objection to this combination, provided the requisite amount of Cod Liver Oil be present. One of the best combinations is that of the Oil with Trommer's Extract of Malt. The Malt aids materially in its digestion, as well as in the digestion of foods, and patients taking this preparation will usually improve in appetite."

"Used with marked success in every case," says Dr. Godfrey.

"I have used the Trommer Extract of Malt with Cod Liver Oil for a number of my patients suffering from phthisis, in every case with marked success. * * I have no hesitation in saying that when these preparations are fully made known to the profession, they will be accepted as standard remedies. * * Extract of Malt entirely does away with the necessity for alcoholic stimulants.—R. T. Godfrey, M. D., Prof. of Hygiene and Public Health, McGill University, Montreal.

EXTRACT OF MALT,

With Cod Liver Oil and Hypophosphites.

Unequalled by any of the "Emulsions" of Cod Liver Oil, because more Stable, more Palatable, more Nutritious, and possessing Diastasic and Peptogenic properties.

This combination consists of 60 per cent. of Trommer's Malt Extract, and 40 per cent. of the best Norwegian Cod Liver Oil. A tablespoonful contains:

Hypophosphite of Lime, 2½ grains.
Hypophosphite of Soda, 1½ grains.

It forms a perfect and stable preparation. The Salts are kept in solution by a slight excess of Hypophosphorus Acid.

Does not become distasteful by prolonged use.

This preparation is recommended on account of its agreeableness to the palate and stomach. It is appropriate in all cases in which Malt Extract, Cod Liver Oil and Hypophosphites are indicated. Many patients, unable to take the Oil in any other form, have found this acceptable, and have derived signal benefit from its highly nutritious and restorative properties. It does not become distasteful by prolonged use.

Dr. Taylor in his report on HYPOPHOSPHITES says: "The introduction of these HYPOPHOSPHITES into the blood produces a glowing influence as a respiratory excitant, expanding the chest; as a pyrogenic, increasing animal heat and nervous force, and removing erratic pains; and as a haemogen forming a nucleus for the rallying of red globules; it increases appetite and cheerfulness, and controls expectoration, night-sweats, and diarrhoea. These points I have repeatedly proved."

EXTRACT OF MALT,

With Cod Liver Oil and Iodide of Iron.

Consists of 60 per cent. of Trommer's Extract of Malt and 40 per cent. pure Norwegian Cod Liver Oil; Iodide of Iron being added in the proportion of One Grain to a Tablespoonful.

This combination is proposed to meet those cases where the physician desires to add a more energetic alterative and restorative to the treatment with Cod Liver Oil and Extract of Malt. Iodide of Iron is tonic, alterative, diuretic, and emmenagogue, and is much employed in scrofulous diseases, enlarged glands, anaemia, chlorosis, atonic amenorrhœa, leucorrhœa and diabetes. Ricord found it also a most valuable remedy in syphilitic diseases occurring in debilitated and scrofulous subjects.

Ricord found it a most valuable remedy.

Both Iodide of Iron and Cod Liver Oil are exceedingly well adapted to the strumous ophthalmia of children, and amenorrhœa occurring in females of a phthisical tendency.

* * * "I have had under observation several cases of wasting disease in children, and anaemia in young women, and, more notably, a very intractable case of marasmus, which I have had under treatment for several years. The last-named has been more benefited by the Trommer Malt (with Oil and Iodide of Iron) than by any other preparation I have met with. In the class of cases cited: anaemia and tubercular disease of either lungs or mesenteric glands, I consider the Malt preparations most valuable adjuncts to our list of therapeutic agents."—*E. C. Malloch, M. D., Ottawa.*

EXTRACT OF MALT,

With Pepsin.

A tablespoonful contains

Pepsin (equivalent of saccharated,) 20 grains.
Acid Hydrochloric, 2½ minimis.

Trommer's Extract of Malt is not merely a highly concentrated, PRE-DIGESTED NUTRIENT, rich in all the elements necessary to the construction and repair of the various tissues of the body, but it possesses strong digestive power. When used along with food it promotes not only the digestion of starchy substances, but Albuminoids and fats also. By the addition of Pepsin and Hydrochloric Acid, in this combination, its action on the albuminous constituents of food is still further augmented. It is especially adapted to dyspeptic conditions in which there is deficient power to digest animal food, owing to the scanty secretion of Pepsin and Hydrochloric Acid.

"In functional derangement of the stomach and bowels, the combination of Extract of Malt with Pepsin, is most valuable; and in the emaciation following the summer diarrhœa of children it supplies a physiological medicine of extraordinary restorative power."—*J. A. Grant, M. D., M. R. C. P., (Lond.,) Ottawa.*

Pancreatin is sometimes combined with Pepsin and Hydrochloric Acid, but there is no rational physiological basis for such formula. EWALD says: "So far as concerns administration by the mouth, Pancreatic preparations are worthless. * * * The power of digesting albumen in the pancreatic ferment is destroyed by the action of the gastric digestion."—*Lectures on Digestion, 1881, Page 140.* KÜHNE states that "the pancreatic ferment, when brought in contact with gastric juice or pepsin in acid solution, is digested like any other albuminoid and its action destroyed."—*Ibid.*

DR. JACOBI says: "I hope it will not be forgotten that the practice which I know some of our colleagues have unfortunately fallen into, that of giving pancreatin for the purpose of, in some indefinite way, improving the digestion and thus aiding the man or woman or child,—is unscientific and therefore a ridiculous one."—*The Dietetic Gazette, April, 1889.*

EXTRACT OF MALT,

For Infants and Children.

A pure Diastasic Extract of Malt, without hops. Put up in special style, in 8 oz. bottles, price 50 cents.

Dr. Ewald, of the Royal University of Berlin, states in his work on Digestion, that "Pancreatin preparations are quite worthless."

Although our Plain Malt Extract, containing the aromatic and bitter principles of Hops, is very generally employed in the treatment of weakly children, in response to numerous calls for Malt Extract free from the

Useful for
children
suffering
from debility
from whatever
cause.

Contains most
valuable
Peptogenous
constituents.

flavor imparted by Hops, we supply the Extract as above indicated. The demand for this preparation is constantly growing, and we have received numerous reports of its utility in the treatment of children of weak digestive powers, and those suffering from debility, from whatever cause.

Not only during the period of nursing, but at weaning and subsequently many children still lack in the power to digest amylaceous food. This source of gastric and intestinal disorder, and of defective nutrition, is usually promptly relieved by the use of this Extract. When added to cow's milk it greatly promotes the digestibility of the latter, and also increases its nutritive value, by furnishing easily assimilated albuminoids, carbohydrates, and alkaline phosphates, in good quantity.

Children like it as they do the most toothsome confections, and can partake of it freely without harm. It may be added to, or, which is generally preferred, taken after any kind of food. Being actively Diastatic, and containing the most valuable Peptogenous constituents, it not only ensures the normal transformation of starchy substances, but also directly promotes the digestion of the albuminoid constituents of food.

It is a valuable nutrient and restorative for children affected with acute or chronic disorders of the stomach or bowels, or of the air passages. It is equally well adapted to all cases in which the flavor of Hops, in the *Plain* Extract is objectionable. It is better than cane sugar for sweetening cow's milk fed to young children. It is the best remedy for indigestion occurring at the period of weaning.

Numerous preparations styled "Malt Extract," or "substitutes for Malt Extract," are on the market, and vigorously pressed on the attention of physicians by various parties. We have to say only that those who desire to prescribe a pure and efficacious preparation, one which has given good results in the hands of those whom we have quoted, and of thousands of others in every part of the civilized world, should be sure to specify TROMMER'S. We are the oldest manufacturers of Diastatic Nutrients in America, and devote ourselves exclusively to their production in unequalled perfection. **SATISFACTORY RESULTS CAN BE EXPECTED ONLY FROM AN ARTICLE WHICH EXPERIENCE HAS DEMONSTRATED IS THE BEST.**

Trommer's Diastasic Food

A Nourishment for Infants and Invalids.

Trommer's Diastasic Food has now been on trial during four years, under the observation of a large number of physicians, in both private and hospital practice.

From favorable reports coming from those who have had experience in its employment, under a variety of circumstances, and in the most trying cases, we feel justified in giving positive assurance to the profession that this Food is an excellent nourishment for infants and sick persons, and far better adapted as a substitute for mother's milk, than any other preparation of this class.

The Diastasic Food is prepared from choice selected cereal products, and, when combined with fresh, sweet milk, forms a normal nutriment, containing all the elements required for the complete nourishment of the body.

These constituents contain active diastase and *while the Food is being got ready for administration, they undergo digestive changes*, like those which seeds undergo during germination, and like those which bread and similar foods undergo during salivary digestion. By this diastasic digestion both the albuminoid and amylaceous constituents of the food are largely changed into soluble and diffusible forms, and become, consequently, susceptible of being appropriated without taxing the imperfectly developed digestive organs of the infant or of those enfeebled by disease in older persons. Ample experience has proved that the youngest infant and the most reduced invalid, alike, may take this Food with safety and be well nourished by it.

The carbohydrates of this Food DO NOT consist of milk sugar, or of prepared dextrine, with desiccated milk, or similar compounds, lately so strenuously advocated by dietetic theorists. Such foods, by chemical manipulation, superheating, desiccation, or appertizing processes, are liable to impairment for food purposes, and are useful only as occasional

expedients, like canned goods generally. They lose something essential during the processes by which they are manufactured—but that something is necessary to good appetite and good nutrition.

Trommer's Diastasic Food is prepared by adding fresh, sweet milk, as often as nourishment is given. Fresh milk is better than desiccated or condensed milk; it has the essential quality of *freshness*. Trommer's Food is therefore always fresh; the diastasic or digestive changes take place principally while it is being prepared for the patient. The milk combined with it is by the same action partly digested, and becomes more like mother's milk, very bland and digestible.

When prepared *by the addition of water only*, the same digestive changes occur—and in nutritious properties it then closely resembles human milk. Prepared in this manner it is adapted to all cases and conditions in which milk for any cause is not indicated or tolerated, and is often well borne in infantile diseases, and in febrile affections, when every other kind of nourishment disagrees; and, by those who have had experience with it in febrile cases characterized by much gastric and intestinal disorder, is deemed indispensable. It allays thirst, and nourishes adequately without producing the least irritation of the stomach or bowels.

Theorists may assert that sugar of milk is the only suitable carbohydrate for infants. The truth is that the soluble carbohydrates produced by diastasic digestion of amylaceous substances are those which the human being feeds on, ever after the earlier months of infantile life. The infant does not digest starch well owing to the undeveloped condition of the salivary glands. Diastasic digestion is identical with salivary digestion when those glands are fully developed and functionally active, and Trommer's Diastasic Food places the infant to this extent on a par with older children and adults, so far as the digestion of farinaceous food is concerned.

Respectfully,

The Trommer Extract of Malt Company.

JOHN B. RICE, M. D., President.

ROBERT H. RICE, M. D., Vice President.

GUSTAVUS A. GEESNER, M. D., Secretary.

LEONIDAS H. CRESS, Treasurer.

"I can hardly say too much of the value of Trommer's Extract of Malt. In many cases in which I have prescribed it, its therapeutic and nutritious properties were marked and unmistakable; and such I feel confident will be the experience of others who may be induced to use it in such affections as dyspepsia, in most of its forms, in anaemia, in strumous and tuberculous affections, in constipation, in irregularities of the catamenial discharges, etc. In fact, I am now in the habit of prescribing it in all cases of defective nutrition attended with loss of appetite, from whatever cause induced, and almost always with gratifying results. My experience has been confined to the Plain Extract (with hops), adding as occasion required, iron, nux vomica, etc. I have recently seen some very neat additions to the Plain Extract, compounded by the Trommer Extract of Malt Company, and shall not hesitate to prescribe them as my patients need them in the future.—*Harvey L. Byrd, M. D., Late Professor in Medical Colleges of Savannah and Baltimore.*

"As Superintendent of the Public Lying-in-Hospital wards of the Woman's Hospital, I have had excellent opportunity of testing the Trommer preparations. * * * A large number of our patients were in a very debilitated condition, and after confinement required special treatment. These preparations, more especially that with Cod Liver Oil, were found of the greatest benefit. Their restorative power was very marked, patients regaining strength, and a healthy state of blood, much more rapidly than had previously been observed. Results here being so satisfactory led me to use the Malt preparations extensively in my private practice, and I have not been disappointed. With children requiring a nutritive and alterative remedy these preparations completely fulfilled the indication."—*R. A. Kennedy, M. A., M. D., Prof. Midwifery and Diseases of Women, &c., University Bishop's College, Montreal.*

* * * "From results obtained through its use I have been led to look upon this remedy as the most valuable aid we possess in all cases where debility, impaired digestion, and malnutrition obtain. That improvement has been due to the use of Malt. I have proved in several cases of chronic dyspepsia, in which Malt with Pepsin produced speedy and permanent benefit, where previously Pepsin, Bismuth and the Mineral Acids, with the various tonics, stimulants and stomachics usually given in such cases, had been prescribed with only temporary benefit. I have given Malt in combination with Hypophosphites in many cases of incipient phthisis, and in every case its use was followed by immediate and marked improvement. I believe that in Malt we possess an invaluable remedy as a nutrient tonic."—*J. B. McConnell, M. D., Prof. Materia Medica, &c., University Bishop's College, Montreal.*

* * * "In functional derangement of the stomach and bowels, the combination of Extract of Malt with Pepsin, is most valuable; and in the emaciation following the summer diarrhoea of children it supplies a physiological medicine of extraordinary restorative power. In cases of incipient tuberculosis, Extract of Malt with Cod Liver Oil is a most excellent remedy. Its nutritive and restorative powers, combined with its alterative and tonic virtues, will command for Extract of Malt and its combinations a place of more than ordinary importance."—*J. A. Grant, M. D. M. R. C. P., (Lond.,) Ottawa.*

"I have made extensive use of the Trommer Malt during the past year, and have great pleasure in adding my testimony (based upon experience of its action) to the evident skill and care brought to bear in the manufacture of their preparations by this Company. I esteem Malt Extract one of the most valuable agents available to the profession, and have no hesitation in saying that the Trommer Company's preparations should hold a first place amongst remedies of this character."—*E. P. Lachapelle, M. D., Prof. of Physiology and Pathology, &c., Laval University, Montreal.*

"I have for some time been using the various preparations of Trommer Extract of Malt, which have given me great satisfaction. * * In marasmus, in tabes, in the dyspeptic forms of anaemia, in fact, in wasting diseases generally, * * it has exceeded my most sanguine expectations. As a substitute for Cod Liver Oil (for which in most cases it may be used), the palatable character of Extract of Malt is a strong recommendation."—*W. Marsden, A. M., M. D., Pres. Coll. Physicians and Surgeons, of Quebec.*

CERES UBERE PLENO
NUTRIT FOVETQUE INFANTES.